METHOD FOR AUTOMATIC SELECTION OF CONFIGURATION PROFILE TO MOBILE PHONE

5   ## TECHNICAL FIELD

The invention is concerned with a method for automatic selection of a configuration profile to a mobile phone.

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BACKGROUND ART

Modern mobile phones contain a multitude of new technologies and services. For most of these it is necessary for the subscriber to have a correct configuration of

15   the phone to be able to use the new technologies and services. Such a configuration involves setting a number of parameters to correct values. The exact parameters to be set vary depending on the technology. Only for WAP, a number of specific parameters exist, such as IP-addresses and ports for WAP Gateways, disconnection times, connection type preferences, home page

20   addresses, username and password etc. For other technologies, other parameters exist. These parameters can be stored either on the SIM card or in the phone itself.

The structure of the International Mobile Subscriber Identity (IMSI) is defined in

25   the standards. The IMSI is specified in IUT-T recommendation E.212. The Mobile Country Code (MCC) as well as the Mobile Network Code (MNC) and the Mobile Station Identification Number (MSIN) are contained in the IMSI. The MCC, MNC and MSIN together form the IMSI.

30   The MCC uniquely identifies the country that the IMSI belongs to. The values assigned to MCC have been defined by ITU-T on a global basis to guarantee this uniqueness.

The asssignment of values to MNC is the responsibility of the national regulatory authorities. The values of MNC need to be unique for each MCC. Thus the combination of the MNC and MCC forms a globally unique identifiaction for a specific network.

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Network operators are then normallally responsbile for the assignment of the Mobile Station Identification Number (MSIN).

The actual parameters that are to be set are very technical and mean nothing or

10 little to most subscribers. It is therefore difficult for the subscriber to correctly set the parameters. Hence, a lot of subscribers do not have correct settings of these . parameters. This means that the subscribers will not be using the services or they might even think that a specific technology is useless since they could never understand how to use it.

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To add to the difficulties, as well as the parameter naming, the way for the subscriber to enter the correct configuration parameters vary from phone to phone.

20 Having incorrect parameter settings often leads to inability to use the technology or services depending on it. Depending on which setting is faulty, the technology . might be possible to use but work less than optional. This means that the subscribers will not use the technology and related services. When the subscribers do not have correct settings and thus do not use the new

25 technologies and services, the operators are not making as much money on these services as they could and want.

Modern phones reduce the problem by having pre-defined configuration profiles that collect the parameters into a logical structure of name-value pairs for the

30 parameters and their respective values. Since such a configuration profile already with the technologies available today can contain a large number of

parameters, it is reasonable but not necessary to sub-group a configuration set into logical configuration set into a logical page with name – value pairs. Since this still does not make the purpose of the individual parameters obvious for the subscriber, additional functionality is possible. It is possible to predefine

5   configurations sets for different operators and assign names that match the operators. The task of the subscriber is then reduced to selecting the predefined configuration profile that matches his operator or service provider.

Such a configuration profile can often be complemented with a number of

10   predefined services, or links to services, that use the technology. Examples of such pre-defined services could be short-cuts or bookmarks to download portals for ring tones, gaming server addresses, pre-installed applications that communicate over the network etc. Having such predefined services increases the chance of getting the subscriber to start using the new technology.

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However, even that final step requires some understanding from the subscriber regarding the services and technologies. The subscriber has to actively search for these profiles and realize that he is interested in this area to make the selection.

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THE OBJECT OF THE INVENTION

The object of the invention is to develop a solution, which enables the subscriber

25   to select the right configuration profile in an easy and user friendly way.

SUMMARY OF THE INVENTION

30   The method of the invention for automatic selection of configuration profile to a mobile phone, in which one or more configuration profiles are predefined in the

mobile phone and one configuration profile is defined in a card inserted in the mobile phone, is characterized by the steps of switching on the mobile phone, comparing the configuration profile of the card with the configuration profile information in the mobile phone, and selecting a configuration profile to the

5   mobile phone as a consequence of the comparison.

Said card is preferably a Subscriber Identity Module (SIM) and the preferable embodiments of the invention are presented in the subclaims.

10   Thus, the invention involves phone based support for automatic selection of configuration profiles. This is a new solution compared with a solution that handles SIM controlled automated settings.

The invention gives a possibility of getting usage of new network technology to

15   increase even though the subscribers do not have any specific technology competence.

The solution of the invention removes almost entirely the need for the subscriber to understand the technology or the configuration principles of the phone itself.

20   When a SIM is inserted in the phone, the phone can detect country and operator codes from the SIM. This information exists in the International Mobile Subscriber Identity (IMSI). The configuration profiles that have been predefined in the phone can then be compared against the data about operator that is provided on the SIM. The idea is to have the country code and operator code internal identifiers

25   for the configuration profiles.

When the subscriber inserts the SIM into the phone, the phone compares the operator information on the SIM with the information in the currently active configuration profile set. If these do not match, the phone asks the user if he

30   wants to activate settings for the current network operator. If so configured, this could be done with or without user configuration.

In this way, the phone gets automatically configured to fit the subscriber's network and services.

5   In the SIM-controlled scenario mentioned, it is the SIM that has been provided by the operator that detects that the user has a new phone. The subscription is assumed to have stayed the same or actually be a new one where this functionality is present. The SIM then initiates a request for downloading correct settings for the specific phone model from the network. The SIM based model can thus better adapt to configuration changes in the network. The basic principle

10   is that that solution makes the SIM detect a new phone. The configuration data would be provided by the operator.

In the solution of the invention, the phone detects a new SIM and chooses a preconfigured configuration profile. Note that the phone would have difficulties to

15   dynamically download new configuration profile data unless provided by the phone manufacturer.

The subscriber can start using the services immediately after purchasing a new phone without having any in-depth knowledge of either one of the technology, the

20   parameters or his new phone. The operator can thus expect a large subscriber base to start using new technologies when new handsets reach the market.

FIGURES

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Figure 1 is a flow scheme of the method of the invention

DETAILED DESCRIPTION

30   The basic principle is that the phone performs a comparison between the Mobile Country Code (MCC) and the Mobile Network Code (MNC) on the SIM and the

corresponding values for the currently active configuration profiles whenever the phone is switched on or when a new SIM card is inserted in the mobile phone (Step 1 of figure 1).

The phone then checks (in step 2 of figure 1) if there is a currently active configuration profile in the phone.

If the phone has no active configuration profile, the phone compares the MCC+MNC of SIM with all predefined configuration profiles in the phone and if a profile matches, the phone optionally asks the subscriber if he wants to activate it. The user can then be given the option of not having to answer this question again. Upon the acceptance of the user, the matching configuration profile is activated in step 3 of figure 1.

If the phone, on the contrary, has an active configuration profile, and if that active profile has the same identity (MCC+MNC) as that on the SIM, which is stated in step 4 of figure 1, no action shall be taken (step 5 of figure 1).

If, however, the identity of the configuration profile does not match the identity as given by the information on the SIM, the user is asked if he wants to switch active configuration profile, e.g. if he wants to activate a configuration profile in the mobile phone that corresponds to that defined in the card. If the user accepts, the active configuration profile is switched in step 6 of figure 1.